	L #	Hits	Search Text	DBs	Time Stamp
1	L1	40	thrr or (threonine adj resistance)	USPAT; EPO; JPO; DERWENT	2001/05/22 18:23
2	L10	0	l1 and (homoserine adj resistance)	USPAT; EPO; JPO; DERWENT	2001/05/22 18:16
3	L15	70	feedback adj inhibition with threonine	USPAT; EPO; JPO; DERWENT	2001/05/22 18:23

	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
1	US 6222100 B1	20010424	21	Herbicide resistance in plants	800/300	47/58.1 ; 800/270 ; 800/320 ; 800/320.1 ; 800/320.2 ; 800/320.3
2	US 6211439 B1	20010403		Herbicide resistance in plants	800/300	800/270 ; 800/320 ; 800/320.1 ; 800/320.2 ; 800/320.3
3	US 6211438 B1	20010403		Herbicide resistance in plants	800/300	800/270 ; 800/320 ; 800/320.1 ; 800/320.2 ; 800/320.3
4	US 6107475 A	20000822		Seven transmembrane receptors	536/23.5	435/320.1 ; 435/69.1 ; 435/7.1 ; 530/360 ; 530/387.2 ; 530/388.22 ; 530/389.1
5	US 6077990 A	20000620		PAR2 modified transgenic mice	800/18	435/325 ; 435/455 ; 435/461 ; 435/463 ; 800/13 ; 800/21 ; 800/25
6	US 6026029 A	20000215		Semiconductor memory device	365/189.01	365/230.06

	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
7	US 6015828 A	20000118		Chemical modification of chloride channels as a treatment for cystic fibrosis and other diseases	514/397	514/2 ; 514/311 ; 514/312 ; 514/313 ; 514/383 ; 514/398 ; 514/399 ; 514/400 ; 514/42 ; 514/44 ; 514/561 ; 514/562 ; 514/563 ; 514/564 ; 514/566 ; 514/62 ; 514/638 ; 514/663 ; 514/667 ; 514/673 ; 514/674 ; 514/8 ; 514/80 ; 514/851
8	US 5955645 A	19990921		Thrombin receptor deficient transgenic mice	800/18	435/325 ; 435/455 ; 435/463 ; 800/21 ; 800/22
9	US 5945339 A	19990831		Methods to promote homologous recombination in eukaryotic cells and organisms	435/477	435/483 ; 435/484

	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
10	US 5848004 A	19981208		Semiconductor memory device	365/230.03	365/189.01 ; 365/230.01
11	US 5781360 A	19980714		Method and apparatus for detecting data track misregistration	360/77.08	360/77.02 ; 360/77.04
12	US 5772992 A	19980630		Compositions for co-administration of interleukin-3 mutants and other cytokines and hematopoietic factors	424/85.2	424/85.1 ; 435/69.52
13	US 5759804 A	19980602		Isolated nucleic acid encoding seven transmembrane receptors	435/69.1	435/252.3 ; 435/320.1 ; 530/350 ; 536/23.5
14	US 5718079 A	19980217		Herbicide resistance in plants	800/276	800/278 ; 800/294
15	US 5652723 A	19970729		Semiconductor memory device	365/189.01	365/189.03 ; 365/230.03
16	US 5650968 A	19970722		Semiconductor memory device	365/189.01	365/189.02 ; 365/189.04 ; 365/230.01
17	US 5629895 A	19970513		Semiconductor memory device	365/189.01	365/189.05 ; 365/230.01 ; 365/230.03 ; 365/230.08
18	US 5623454 A	19970422		Semiconductor memory device	365/233	365/189.05 ; 365/230.08
19	US 5583813 A	19961210		Semiconductor memory device	365/189.01	365/233
20	US 5559750 A	19960924		Semiconductor memory device	365/230.06	365/230.04 ; 365/233

	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
21	US 5545545 A	19960813		Lysine-insensitive maize dihydrodipicolinic acid synthase	800/278	435/412 ; 530/376 ; 536/23.6 ; 800/320.1
22	US 5544121 A	19960806		Semiconductor memory device	365/222	365/230.03
23	US 5304732 A	19940419		Herbicide resistance in plants	800/300.1	
24	US 5017483 A	19910521	5	Process for producing L-threonine	435/115	435/252.8 ; 435/849
25	US 4996147 A	19910226	3	Process for producing L-threonine by fermentation	435/115	435/252.8 ; 435/849
26	JP 2000189177 A	20000711		NEW GENE AND PRODUCTION OF AMINO ACID		
27	JP 05229421 A	19930907		FAULT DETECTOR FOR ANTISKID BRAKE CONTROL PUMP, AND DETECTION METHOD		303/122.12
28	JP 01005496 A	19890110		PRODUCTION OF L-THREONINE THROUGH FERMENTATION PROCESS		435/115 ; 435/840
29	JP 62198397 A	19870902		PRODUCTION OF L-THREONINE BY FERMENTATION METHOD		
30	JP 62198396 A	19870902		PRODUCTION OF L-THREONINE BY FERMENTATION METHOD		
31	JP 51129959 A	19761111		ABSORBING FREEZING DEVICE HAVING DUAL EFFECTS AND CONTROL PROCESS THRR EEOR		

	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
32	US 5017483 A	19910521	5	Process for producing L-threonine		
33	EP 1013765 A1	20010416	1	Novel Escherichia bacterium having enhanced L-threonine resistance due to enhanced RhtC protein activity, used to produce L-threonine, L-homoserine, L-valine		
34	JP 07046978 A	19950221		Prepn. of food or drink contg. alcohol drink, bread, fermented condiment - uses Saccharomyces cerevisiae having methyl threonine resistance		
35	JP 03052899 A	19910307		New calcitonin homologue - is 1,7-di-alanine, des-22-tyrosine calcitonin		
36	US 4853332 A	19890801	26	New gene encoding mutein of interleukin-2 - having Cys-125 replaced by neutral amino acid to prevent incorrect di:sulphide bridge formation		

	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
37	JP 63141592 A	19880614		L-Threonine prodn. by fermentation - using gamma, gamma-di:chloro:threonin e resistant Escherichia strain		
38	US 5017483 A	19910521	5	High yield prodn. of L-threonine - comprises culturing escherichia coli mutant strain esp. ferm BP-985 etc.		
39	SU 1129002 A	19841215		Metal parallel stamping - involves feeding material in successive increased length steps and repeating cycle		
40	JP 57115187 A	19820717		L-Threonine prodn. - by culturing Brevibacterium or Corynebacterium strain		

	Document ID	Issue Date	Pages	Title	Current OR
1	US 6228623 B1	20010508	97	Polyhydroxyalkanoates of narrow molecular weight distribution prepared in transgenic plants	435/135
2	US 6221636 B1	20010424		Method for producing L-lysine	435/115
3	US 6214591 B1	20010410		Methods for producing L-valine and L-leucine	435/115
4	US 6133000 A	20001017		Fermentative preparation of amino acids	435/115
5	US 6127600 A	20001003		Methods of increasing accumulation of essential amino acids in seeds	800/278
6	US 6110713 A	20000829		Production of glutamic acid and lysine using auxotrophic mutants of Bacillus methanolicus	435/110
7	US 6107063 A	20000822		Production of L-isoleucine by means of recombinant microorganisms with deregulated threonine dehydratase	435/116

	Document ID	Issue Date	Pages	Title	Current OR
8	US 6090597 A	20000718		Method of producing L-lysine	435/115
9	US 6091002 A	20000718		Polyhydroxyalkanoates of narrow molecular weight distribution prepared in transgenic plants	800/288
10	US 6080913 A	20000627		Binary methods of increasing accumulation of essential amino acids in seeds	800/298
11	US 6066343 A	20000523		Methods and compositions for making fermented cereal products	426/20
12	US 6040160 A	20000321		Method of producing L-lysine by fermentation	435/115

	Document ID	Issue Date	Pages	Title	Current OR
13	US 6004773 A	19991221		Method for producing L-lysine	435/41
14	US 5998178 A	19991207		L-isoleucine-producing bacterium and method for preparing L-isoleucine through fermentation	435/116
15	US 5989875 A	19991123		Method of process for producing L-lysine by fermentation	435/115
16	US 5990384 A	19991123		Co-expression of proteins	800/278
17	US 5958745 A	19990928		Methods of optimizing substrate pools and biosynthesis of poly-.beta.-hydroxybutyrate-co-poly-.beta.-hydroxyvalerate in bacteria	435/183

	Document ID	Issue Date	Pages	Title	Current OR
18	US 5959179 A	19990928		Method for transforming soybeans	800/298
19	US 5942660 A	19990824		Methods of optimizing substrate pools and biosynthesis of poly-.beta.-hydroxybutyrate-co-poly-.beta.-hydroxyvalerate in bacteria	800/298
20	US 5932453 A	19990803		Process for producing L-amino acid through fermentation	435/115
21	US 5888783 A	19990330		Methods for producing L-valine and L-leucine	435/115
22	US 5858749 A	19990112		Bifunctional protein from carrots (Daucus carota) with aspartokinase and homoserine dehydrogenase activities	435/190

	Document ID	Issue Date	Pages	Title	Current OR
23	US 5850016 A	19981215		Alteration of amino acid compositions in seeds	800/287
24	US 5846790 A	19981208		Methods of producing L-lysine and L-glutamic acid by fermentation	435/110
25	US 5840551 A	19981124		Method of producing L-amino acids by fermentation	435/106
26	US 5840483 A	19981124		Method of maintaining a desired recombinant gene in a genetic population of cells	435/6

	Document ID	Issue Date	Pages	Title	Current OR
27	US 5773691 A	19980630		Chimeric genes and methods for increasing the lysine and threonine content of the seeds of plants	800/287
28	US 5766925 A	19980616		Method of producing L-lysine	435/252.32
29	US 5763231 A	19980609		Process for producing L-leucine	435/116
30	US 5756347 A	19980526		Temperature-sensitive plasmid	435/320.1
31	US 5688671 A	19971118		Mutant aspartokinase gene	435/115
32	US 5672345 A	19970930		Selective maintenance of a recombinant gene in a population of vaccine cells	424/93.2
33	US 5661012 A	19970826	22	Method for the production of L-threonine by fermentation, using mutated DNA encoding aspartokinase III	435/115

	Document ID	Issue Date	Pages	Title	Current OR
34	US 5641660 A	19970624	22	Glutamicum threonine biosynthetic pathway	435/115
35	US 5616480 A	19970401	14	Temperature sensitive plasmid	435/477
36	US 5474918 A	19951212	4	Process for the production of L-threonine and L-isoleucine by fermentation of Escherichia coli	435/115
37	US 5451516 A	19950919	44	Bifunctional protein from carrots (Daucus carota) with aspartokinase and homoserine dehydrogenase activities	435/190
38	US 5376538 A	19941227	3	Process for producing L-threonine with strains of E coli resistant to phenylalanine and leucine	435/115
39	US 5087566 A	19920211	4	Process for producing L-threonine	435/115

	Document ID	Issue Date	Pages	Title	Current OR
40	US 5077207 A	19911231	6	Process for the production of L-threonine by fermentation	435/115
41	US 5017483 A	19910521	5	Process for producing L-threonine	435/115
42	US 4996147 A	19910226	3	Process for producing L-threonine by fermentation	435/115
43	US 4945058 A	19900731	13	Plasmid with wide host range and process of producing L. threonine using the same	435/252.3
44	US 4897350 A	19900130	17	Methods and compositions for improving the nutritive value of foods	435/115
45	US 4889810 A	19891226	13	Method and compositions for improving the nutritive value of foods via Lactobacillus Ferementum	435/252.9

	Document ID	Issue Date	Pages	Title	Current OR
46	US 4601983 A	19860722	12	Coryneform bacteria carrying recombinant plasmids and their use in the fermentative production of L-threonine and L-isoleucine	435/115
47	US 4463094 A	19840731	3	Fermentation production of L-threonine	435/115
48	US 3970519 A	19760720	4	Process for producing L-leucine	435/116
49	US 3816255 A	19740611	4	PROCESS FOR PRODUCING L-LYSINE BY FERMENTATION	435/115
50	JP 10215883 A	19980818		PRODUCTION OF L-LYSINE	
51	EP 857784 A2	19980812		Method for producing L-lysine	
52	EP 854189 A2	19980722		Method for producing L-lysine	
53	EP 841395 A1	19980513		PROCESS FOR PRODUCING L-LYSINE	
54	EP 754756 A1	19970122		PROCESS FOR PRODUCING L-LYSINE	
55	WO 9640934 A1	19961219		PROCESS FOR PRODUCING L-LYSINE	

	Document ID	Issue Date	Pages	Title	Current OR
56	EP 699759 A1	19960306		VARIANT ASPARTOKINASE GENE	
57	WO 9523864 A1	19950908		PROCESS FOR PRODUCING L-LYSINE	
58	WO 9425605 A1	19941110		VARIANT ASPARTOKINASE GENE	
59	EP 436886 A1	19910717		Process for producing L-isoleucine and microorganisms suitable therefore and recombinant DNA.	
60	US 3970519 A	19760720	4	Process for producing L-leucine	
61	WO 200063388 A1	20010212		DNA encoding modified aspartokinase without synergistic feedback inhibition by L-lysine and L-threonine for efficient production of L-lysine by coryneform [illegible]	

	Document ID	Issue Date	Pages	Title	Current OR
62	WO 9941395 A1	20000117		New nucleic acid encoding threonine dehydratase deaminase resistant to feedback inhibition, useful as selection marker for cell transformation and to impart herbicide	
63	WO 9902656 A1	20000828		New sequences encode mutant threonine dehydratase/deaminase - which is insensitive to feedback inhibition, useful as a selective marker to produce transformed cells resistant to toxic	
64	US 6221636 B1	20010618	47	New recombinant DNA encoding aspartokinase in Coryneform bacterium - used in preparation of L-lysine	

	Document ID	Issue Date	Pages	Title	Current OR
65	US 6004773 A	19991221	54	Recombinant DNA autonomously replicable in coryneform bacteria - used to produce L-lysine, codes for e.g. aspartokinase, di:hydropicolinate reductase and synthase and di:amino-pimelate decarboxylase	
66	WO 9640934 A1	20001225		L-lysine production by culture of transformed Corynebacterium - using DNA encoding aspartokinase lacking feedback inhibition by L-lysine, with DNA coding for di:hydro:di:picolinate reductase	
67	US 5766925 A	19980616	41	High L-lysine production using transformant coryneform bacteria - having attenuated or deficient homoserine dehydrogenase gene and introduced feedback inhibition free asparto:kinase gene	

	Document ID	Issue Date	Pages	Title	Current OR
68	US 6107063 A	20000822	41	L-isoleucine prodn. with a de-regulated threonine dehydratase - where the enzyme is mutated in its allo:steric domain to abolish feedback inhibition by	
69	JP 02000458 A	19900105		New recombinant DNA used for microbial l-isoleucine prodn. - obtd. by proliferating plasmid or phage contg. integrated threonine deaminase	
70	FR 2264088 A	19751114	4	Fermentative prodn. of L-leucine - using Corynebacterium and Brevibacteriu m strains with specific amino acid requirements and resistant to	

INDEX 'ADISALERTS, ADISINSIGHT, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 08:17:55 ON 23 MAY 2001

SEA (THREONINE (W) RESISTANCE) OR THRR OR (HOMOSERINE (W) RESIS

3	FILE AGRICOLA
2	FILE BIOBUSINESS
21	FILE BIOSIS
11	FILE BIOTECHABS
11	FILE BIOTECHDS
2	FILE BIOTECHNO
10	FILE CABA
1	FILE CANCERLIT
31	FILE CAPLUS
1	FILE CEABA-VTB
3	FILE DDFU
16	FILE DGENE
4	FILE DRUGU
1	FILE EMBAL
10	FILE EMBASE
9	FILE ESBIOBASE
1	FILE FSTA
16	FILE GENBANK
2	FILE IFIPAT
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4	FILE LIFESCI
13	FILE MEDLINE
8	FILE PASCAL
16	FILE SCISEARCH
1	FILE TOXLINE
2	FILE TOXLIT
20	FILE USPATFULL
11	FILE WPIDS
11	FILE WPINDEX

L1 QUE (THREONINE (W) RESISTANCE) OR THRR OR (HOMOSERINE (W) RESIS

FILE 'MEDLINE, AGRICOLA, CAPLUS, BIOSIS, EMBASE, WPIDS' ENTERED AT 08:19:27 ON 23 MAY 2001

L2 89 S (THREONINE (W) RESISTANCE) OR THRR OR (HOMOSERINE (W) RESISTA

L3 48 DUP REM L2 (41 DUPLICATES REMOVED)

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=> s (threonine (w) resistance) or thrr or (homoserine (w) resistance) or rhta
L2          89 (THREONINE (W) RESISTANCE) OR THRR OR (HOMOSERINE (W) RESISTANCE
               ) OR RHTA

=> dup rem
ENTER L# LIST OR (END):l2
PROCESSING COMPLETED FOR L2
L3           48 DUP REM L2 (41 DUPLICATES REMOVED)

=> d ibib abs

L3   ANSWER 1 OF 48  MEDLINE                                  DUPLICATE 1
ACCESSION NUMBER:    2001187139     MEDLINE
DOCUMENT NUMBER:     21172875   PubMed ID: 11274118
TITLE:               Genetic organization of the region encoding regulation,
                     biosynthesis, and transport of rhizobactin 1021, a
                     siderophore produced by Sinorhizobium meliloti.
AUTHOR:              Lynch D; O'Brien J; Welch T; Clarke P; Cuiv P O; Crosa J H;
                     O'Connell M
CORPORATE SOURCE:    School of Biotechnology, Dublin City University, Dublin 9,
                     Ireland.
CONTRACT NUMBER:     AI19018 (NIAID)
SOURCE:              JOURNAL OF BACTERIOLOGY, (2001 Apr) 183 (8) 2576-85.
                     Journal code: HH3; 2985120R. ISSN: 0021-9193.
PUB. COUNTRY:        United States
                     Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
OTHER SOURCE:        GENBANK-AF110737
ENTRY MONTH:         200105
ENTRY DATE:          Entered STN: 20010517
                     Last Updated on STN: 20010517
                     Entered PubMed: 20010329
                     Entered Medline: 20010503
AB   Eight genes have been identified that function in the regulation,
     biosynthesis, and transport of rhizobactin 1021, a hydroxamate siderophore
     produced under iron stress by Sinorhizobium meliloti. The genes were
     sequenced, and transposon insertion mutants were constructed for
     phenotypic analysis. Six of the genes, named rhbABCDEF, function in the
     biosynthesis of the siderophore and were shown to constitute an operon
     that is repressed under iron-replete conditions. Another gene in the
     cluster, named rhtA, encodes the outer membrane receptor protein
     for rhizobactin 1021. It was shown to be regulated by iron and to encode a
     product having 61% similarity to IutA, the outer membrane receptor for
     aerobactin. Transcription of both the rhbABCDEF operon and the
     rhtA gene was found to be positively regulated by the product of
     the eighth gene in the cluster, named rhrA, which has characteristics of
     an AraC-type transcriptional activator. The six genes in the rhbABCDEF
     operon have interesting gene junctions with short base overlaps existing
     between the genes. Similarities between the protein products of the
     biosynthesis genes and other proteins suggest that rhizobactin 1021 is
     synthesized by the formation of a novel siderophore precursor,
     1,3-diaminopropane, which is then modified and attached to citrate in
     steps resembling those of the aerobactin biosynthetic pathway. The cluster
     of genes is located on the pSyma megaplasmid of S. meliloti 2011. Reverse
     transcription-PCR with RNA isolated from mature alfalfa nodules yielded no
     products for rhbF or rhtA at a time when the nifH gene was
     strongly expressed, indicating that siderophore biosynthesis and transport
     genes are not strongly expressed when nitrogenase is being formed in root
     nodules. Mutants having transposon insertions in the biosynthesis or
     transport genes induced effective nitrogen-fixing nodules on alfalfa
     plants.


=> d ibib abs 1-
YOU HAVE REQUESTED DATA FROM 48 ANSWERS - CONTINUE? Y/(N):y

L3   ANSWER 1 OF 48  MEDLINE                                  DUPLICATE 1
ACCESSION NUMBER:    2001187139     MEDLINE
DOCUMENT NUMBER:     21172875   PubMed ID: 11274118
TITLE:               Genetic organization of the region encoding regulation,
                     biosynthesis, and transport of rhizobactin 1021, a
                     siderophore produced by Sinorhizobium meliloti.
AUTHOR:              Lynch D; O'Brien J; Welch T; Clarke P; Cuiv P O; Crosa J H;
                     O'Connell M
CORPORATE SOURCE:    School of Biotechnology, Dublin City University, Dublin 9,
                     Ireland.
CONTRACT NUMBER:     AI19018 (NIAID)
```

SOURCE: JOURNAL OF BACTERIOLOGY, (2001 Apr) 183 (8) 2576-85.
Journal code: HH3; 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF110737
ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 20010517
Last Updated on STN: 20010517
Entered PubMed: 20010329
Entered Medline: 20010503

AB Eight genes have been identified that function in the regulation, biosynthesis, and transport of rhizobactin 1021, a hydroxamate siderophore produced under iron stress by Sinorhizobium meliloti. The genes were sequenced, and transposon insertion mutants were constructed for phenotypic analysis. Six of the genes, named rhbABCDEF, function in the biosynthesis of the siderophore and were shown to constitute an operon that is repressed under iron-replete conditions. Another gene in the cluster, named **rhtA**, encodes the outer membrane receptor protein for rhizobactin 1021. It was shown to be regulated by iron and to encode a product having 61% similarity to IutA, the outer membrane receptor for aerobactin. Transcription of both the rhbABCDEF operon and the **rhtA** gene was found to be positively regulated by the product of the eighth gene in the cluster, named rhrA, which has characteristics of an AraC-type transcriptional activator. The six genes in the rhbABCDEF operon have interesting gene junctions with short base overlaps existing between the genes. Similarities between the protein products of the biosynthesis genes and other proteins suggest that rhizobactin 1021 is synthesized by the formation of a novel siderophore precursor, 1,3-diaminopropane, which is then modified and attached to citrate in steps resembling those of the aerobactin biosynthetic pathway. The cluster of genes is located on the pSyma megaplasmid of S. meliloti 2011. Reverse transcription-PCR with RNA isolated from mature alfalfa nodules yielded no products for rhbF or **rhtA** at a time when the nifH gene was strongly expressed, indicating that siderophore biosynthesis and transport genes are not strongly expressed when nitrogenase is being formed in root nodules. Mutants having transposon insertions in the biosynthesis or transport genes induced effective nitrogen-fixing nodules on alfalfa plants.

L3 ANSWER 2 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2

ACCESSION NUMBER: 2000:441462 CAPLUS
DOCUMENT NUMBER: 133:69834
TITLE: Recombinant Escherichia coli strains containing genes rhtC and rhtB (encode proteins resulting in enhanced L-threonine and L-**homoserine resistance** activity) and use of strains for enhanced amino acid production
INVENTOR(S): Livshits, Vitaliy Arkadyevich; Zakataeva, Natalia Pavlovna; Aleshin, Vladimir Veniaminovich; Belareva, Alla Valentinova; Tokhmakova, Irina Lyvovna
PATENT ASSIGNEE(S): Ajinomoto Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 24 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1013765	A1	20000628	EP 1999-125406	19991220
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000189177	A2	20000711	JP 1999-356018	19991215
AU 9965435	A1	20000629	AU 1999-65435	19991222
CN 1260393	A	20000719	CN 1999-126909	19991223

PRIORITY APPLN. INFO.: RU 1998-123511 A 19981223

AB The invention provides recombinant Escherichia coli strains with enhanced L-threonine and L-**homoserine resistance** activity and use of these recombinant E. coli to increased prodn. of amino acids, including L-threonine, L-homoserine, L-valine and L-leucine. The invention also relates that the recombinant E. coli are produced by genetic transformation of genes rhtC and rhtB, encoding proteins resulting in enhanced L-threonine and L-**homoserine resistance** activity, resp. The invention further provides the: (1) DNA (gene rhtC) encoding the protein resulting in enhanced L-threonine; (2) DNA sequence of gene rhtC; (3) a primer and probe specific for the rhtC gene and (4)

protein sequence of the proteins encoded by genes rhtC and rhtB. The invention also included the DNA sequence for gene rhtB. In the example section, the invention included: (1) cloning and identification of E. coli genes rhtC and rhtB; (2) methods used in prodn. of the recombinant E. coli strains and (3) effects of gene rhtC and rhtB proteins on homoserine and threonine prodn. in recombinant E. coli. The invention also reported on the homol. between the E. coli gene rhtC and rhtB proteins with lysine transporter LysE of Corynebacterium glutamicum.

REFERENCE COUNT: 6

REFERENCE(S):
(1) Aleshin, V; TIBS TRENDS IN BIOCHEMICAL SCIENCES 1999, V24(4) CAPLUS
(2) Daniels; EMBL DATABASE ACC NO: M87049 1992
(3) Kernforschungsanlage Juelich; WO 9723597 A 1997 CAPLUS
(4) Palmieri; ARCHIVES OF MICROBIOLOGY 1996, V165(1), P48 CAPLUS
(6) Zakataeva; FEBS LETTERS 1999, V452 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 3

ACCESSION NUMBER: 2000:259844 CAPLUS
DOCUMENT NUMBER: 132:276602
TITLE: The rhtB gene conferring resistance to L-homoserine to bacteria and its use in developing strains for fermentation of amino acids
INVENTOR(S): Livshits, Vitaly Arkadievich; Zakataeva, Natalya Pavlovna; Aleoshin, Vladimir Venyamiovich; Belareova, Alla Valentinovna; Tokhmakova, Irina Lvovna
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 994190	A2	20000419	EP 1999-118581	19990920
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU 9947550	A1	20000420	AU 1999-47550	19990913
BR 9904955	A	20001212	BR 1999-4955	19991011
JP 2000116390	A2	20000425	JP 1999-289777	19991012
CN 1254014	A	20000524	CN 1999-121353	19991013

PRIORITY APPLN. INFO.: RU 1998-118425 A 19981013

AB Amino acid-fermenting strains of Escherichia coli carrying an allele of the rhtB gene that makes them resistant to L-homoserine are described. The gene was identified and cloned using a mini-Mu phagemid with clones selected for by conferring **homoserine resistance**. Two genes conferring resistance were identified. One was the prior art **rhtA** gene and the other was the novel rhtB gene. The gene also confers resistance to a no. of other toxic amino acid analogs including .alpha.-amino-.beta.-hydroxyvaleric acid.

L3 ANSWER 4 OF 48 MEDLINE DUPLICATE 4

ACCESSION NUMBER: 2001105147 MEDLINE
DOCUMENT NUMBER: 20563020 PubMed ID: 11108747
TITLE: Impairment of cerebrovascular reactivity by methionine-induced hyperhomocysteinemia and amelioration by quinapril treatment.
AUTHOR: Chao C L; Lee Y T
CORPORATE SOURCE: Department of Internal Medicine, National Taiwan University Hospital, National Taiwan University College of Medicine, Taipei, Taiwan, Republic of China.
SOURCE: STROKE, (2000 Dec) 31 (12) 2907-11.
Journal code: V2J; 0235266. ISSN: 1524-4628.
PUB. COUNTRY: United States
(CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200102
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010521
Entered PubMed: 20001214
Entered Medline: 20010208

AB BACKGROUND AND PURPOSE: Human studies have shown that methionine-induced hyperhomocysteinemia impairs brachial artery endothelial function via

decreasing nitric oxide activity. However, the effect of homocysteine on cerebrovascular reactivity (CVR), which has been reported to be nitric oxide related in experimental and animal studies, remains unclear in humans. Inhibition of angiotensin-converting enzyme may improve nitric oxide-mediated cerebral as well as peripheral endothelial function. The aim of the present study was to investigate the effect of methionine-induced hyperhomocysteinemia on CVR before and after treatment with quinapril, an angiotensin-converting enzyme inhibitor, in healthy adults. METHODS: Plasma homocysteine and CVR were measured at baseline and 4 hours after methionine load (0.1 g/kg body wt) before and after quinapril treatment (10 mg/d for 1 week) in both younger and older groups. CVR was assessed by transcranial Doppler ultrasonography, measuring the percent increase of flow velocity in the middle cerebral artery after brief carotid compression (expressed as transient hyperemic response ratio [**THRR**]). RESULTS: Homocysteine levels were significantly increased after methionine load either before or after quinapril treatment in both groups. Before quinapril treatment, postmethionine **THRR** was preserved in younger adults (24.2+/-5.3% versus 23.8+/-6.3% at baseline, P:=0.73) and decreased in older adults (12.9+/-2.2% versus 21.8+/-4.0% at baseline, P:<0.001). After quinapril treatment, postmethionine **THRR** was preserved in both groups (24.5+/-5.9% versus 24.0+/-5.0% at baseline, P:=0.42 in younger adults; 20.4+/-3.9% versus 21.3+/-3.3% at baseline, P:=0.35 in older adults). CONCLUSIONS: Our study suggests that methionine-induced hyperhomocysteinemia may be causally associated with impairment of CVR in older normal subjects.

L3 ANSWER 5 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:264051 CAPLUS
DOCUMENT NUMBER: 133:220233
TITLE: T-DNA and "gain of function" tobacco mutants with altered threonine metabolism
AUTHOR(S): Amir, R.; Karchi, H.; Yang, L.; Perl, A.; Galili, Gad
CORPORATE SOURCE: Department of Plant Sciences, The Weizmann Institute of Science, Rehovot, 76100, Israel
SOURCE: Curr. Plant Sci. Biotechnol. Agric. (1999), 36(Plant Biotechnology and In Vitro Biology in the 21st Century), 273-276
CODEN: CPBAE2; ISSN: 0924-1949
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A transferred DNA (T-DNA) tagging vector, contg. four enhancers of the 35 S gene promoter (Walden, R., 1994), was used to obtain "gain of function" tobacco mutants with altered threonine metab. From 150 million transferred protoplasts, 17 plants were regenerated whose growth was resistant to a high level of threonine and to its toxic analog hydroxynorvaline. The majority of these plants contained a single T-DNA insert, genetically cosegregating with the **threonine resistance**. The mutants consisted of two categories: threonine overproducers and threonine nonoverproducers. The overproducer mutants were probably connected with regulation of threonine biosynthesis while the nonoverproducers mutants may be results of altered threonine sequestration.
REFERENCE COUNT: 8
REFERENCE(S):
(1) Bryan, J; The Biochemistry of Plants 1980, P403 CAPLUS
(2) Frankard, V; Plant Physiology 1992, V99, P1285 CAPLUS
(3) Fritze, K; The Plant Journal 1995, V7, P261 CAPLUS
(4) Galili, G; The Plant Cell 1995, V7, P899 CAPLUS
(5) Hayashi, H; Science 1992, V258, P1350 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 48 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 1999316661 MEDLINE
DOCUMENT NUMBER: 99316661 PubMed ID: 10389799
TITLE: The effects of nitrous oxide and oxygen on transient hyperemic response in human volunteers.
AUTHOR: Girling K J; Cavill G; Mahajan R P
CORPORATE SOURCE: University Department of Anaesthesia and Intensive Care, Queen's Medical Centre and City Hospital NHS Trust, Nottingham, United Kingdom.. Keith.Girling@nottingham.ac.uk
SOURCE: ANESTHESIA AND ANALGESIA, (1999 Jul) 89 (1) 175-80. Journal code: 4R8; 1310650. ISSN: 0003-2999.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199907

ENTRY DATE: Entered STN: 19990730
Last Updated on STN: 19990730
Entered Medline: 19990720

AB The aim of this study was to determine the effects of breathing 100% oxygen or 50% nitrous oxide in oxygen on the indices of cerebral autoregulation derived from the transient hyperemic response (THR) test in human volunteers. Data were analyzed from nine healthy subjects. Middle cerebral artery (MCA) blood flow velocity (FV) was measured by transcranial Doppler ultrasound, and the THR test was performed using 10-s compression of the common carotid artery. Continuous measurement of P(ETCO2) and expired fractions of oxygen (F(ETO2)) and nitrous oxide (F(ETN2O)) was established, and mean arterial pressure (MAP) was recorded at 2-min intervals. All measurements were performed while the volunteers were breathing room air and were repeated 10 min after achieving F(ETO2) >0.95 and 10 min after achieving F(ETN2O) 0.48-0.52. Two indices derived from the THR test, the transient hyperemic response ratio (**THRR**) and strength of autoregulation (SA), were used to assess cerebral autoregulation. P(ETCO2) and mean arterial pressure did not change significantly throughout the study period. Breathing 100% oxygen did not change MCA FV, **THRR**, or SA. Inhalation of nitrous oxide resulted in a marked and significant increase in the MCA FV (from 48+/-9 to 72+/-8 cm/s; mean +/- SD) and a significant decrease in the **THRR** (from 1.5+/-0.2 to 1.2+/-0.1) and the SA (from 1.0+/-0.1 to 0.8+/-0.1) ($P<0.05$ for all). We conclude that breathing 50% nitrous oxide in oxygen results in both a significant increase in MCA FV and impairment of transient hyperemic response. IMPLICATIONS: Our study suggests that nitrous oxide impairs cerebral autoregulation and may have implications for its use in neurosurgical anesthesia and for interpretation of the results from studies of anesthetics in which nitrous oxide is used in the background.

L3 ANSWER 7 OF 48 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 1998439716 MEDLINE
DOCUMENT NUMBER: 98439716 PubMed ID: 9768780
TITLE: Reliability of the transient hyperemic response test in detecting changes in cerebral autoregulation induced by the graded variations in end-tidal carbon dioxide.
AUTHOR: Mahajan R P; Cavill G; Simpson E J
CORPORATE SOURCE: Department of Anaesthesia, Queen's Medical Center, Nottingham, United Kingdom.. Ravi.Mahajan@nottingham.ac.UK
SOURCE: ANESTHESIA AND ANALGESIA, (1998 Oct) 87 (4) 843-9. Journal code: 4R8; 1310650. ISSN: 0003-2999.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 19990106
Last Updated on STN: 19990106
Entered Medline: 19981026

AB The transient hyperemic response (THR) in the middle cerebral artery (MCA) after the release of brief compression of the ipsilateral common carotid artery has been used to study cerebral autoregulation. We conducted the present study to evaluate the reliability of THR to detect changes in cerebral autoregulation induced by graded variations in PETCO2. Seven healthy adult volunteers were recruited. Fifteen THR tests were performed on every volunteer: three at baseline PETCO2, three each at PETCO2 of 7.5 mm Hg and 15 mm Hg above the baseline, and then three each at PETCO2 of 7.5 mm Hg and 15 mm Hg below the baseline. Transient hyperemic response ratio (**THRR**) and strength of autoregulation (SA) were calculated using established formulae. Both **THRR** and SA were highly sensitive (96%) in detecting the changes in cerebral autoregulation induced by graded changes in PETCO2. The within-individual variability of SA was significantly smaller than that of **THRR** at all levels of PETCO2. IMPLICATIONS: This study demonstrates the reliability of the THR test, when used for repetitive measurements, in detecting changes in cerebral autoregulation induced by graded changes in PETCO2. This test may provide a simple and noninvasive method of evaluating changes in cerebral autoregulation within an individual.

L3 ANSWER 8 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:738896 CAPLUS
DOCUMENT NUMBER: 130:86731
TITLE: Entropy production in collisions of relativistic heavy ions - a signal for quark-gluon plasma phase transition?
AUTHOR(S): Reiter, M.; Dumitru, A.; Brachmann, J.; Maruhn, J. A.; Stocker, H.; Greiner, W.
CORPORATE SOURCE: Institut fur Theoretische Physik, J.W. Goethe-Universitat, Frankfurt a.M., D-60054, Germany

SOURCE: Nucl. Phys. A (1998), A643(1), 99-112
CODEN: NUPABL; ISSN: 0375-9474
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Entropy prodn. in the compression stage of heavy ion collisions is discussed within three distinct macroscopic models (i.e. generalized **RHTA**, geometrical overlap model and three-fluid hydrodynamics). In these models .apprx.80% or more of the exptl. obsd. final-state entropy is created in the early stage. It is thus likely followed by a nearly isentropic expansion. An equation of state with a first-order phase transition was used. For low net baryon d., the entropy d. exhibits a jump at the phase boundary. However, the excitation function of the sp. entropy per net baryon, S/A, does not reflect this jump. This is due to the fact that for final states (of the compression) in the mixed phase, the baryon d. .rho.B increases with .sqroot.s, but not the temp. T. Calcns. within the three-fluid model show that a large fraction of the entropy is produced by nuclear shock waves in the projectile and target. With increasing beam energy, this fraction of S/A decreases. At .sqroot.s = 20 A GeV it is on the order of the entropy of the newly produced particles around midrapidity. Hadron ratios were calcd. for the entropy values produced initially at beam energies from 2 to 200 A GeV.

REFERENCE COUNT: 64
REFERENCE(S): (1) Amsden, A; Phys Rev C 1978, V17, P2080 CAPLUS
(2) Anishetty, R; Phys Rev D 1980, V22, P2793 CAPLUS
(3) Antinucci, M; Lett Nuov Cim 1973, V6, P121 CAPLUS
(5) Barz, H; Phys Lett B 1988, V206, P399 CAPLUS
(8) Bertsch, G; Phys Rev C 1981, V24, P2514 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-312748 [29] WPIDS
DOC. NO. NON-CPI: N1997-258927
DOC. NO. CPI: C1997-100813
TITLE: Epitaxially deposited III-V semiconductor material - lattice matched with cassiterite type tetragonal system crystalline substrate.
DERWENT CLASS: L03 U11
INVENTOR(S): BRYLINSKI, C; POISSON, M; POISSON, M A
PATENT ASSIGNEE(S): (CSFC) THOMSON CSF; (CSFC) THOMSON CSF SA
COUNTRY COUNT: 4
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 779380	A1	19970618	(199729)*	FR	9
R: DE GB					
FR 2742582	A1	19970620	(199732)		13
JP 09186359	A	19970715	(199738)		6

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 779380	A1	EP 1996-402651	19961206
FR 2742582	A1	FR 1995-14913	19951215
JP 09186359	A	JP 1996-333833	19961213

PRIORITY APPLN. INFO: FR 1995-14913 19951215
AN 1997-312748 [29] WPIDS
AB EP 779380 A UPAB: 19970716
A III-V semiconductor material, obtained by heteroepitaxy on a cassiterite type tetragonal system crystalline substrate, is new. Preferably, the cassiterite-type crystalline material is of (a) M2F2 type, in which M2 is a divalent element, especially Co, Fe, Mg, Mn, Ni, Pd or Zn, or a ternary or higher alloy of divalent elements; (b) M4O2 type, in which M4 is a tetravalent element, especially Ru, Sn, Ta, Te, Ti or W, or a ternary or higher alloy of tetravalent elements; (c) M3M5O4 type, in which M3 is a trivalent element and M5 is a pentavalent element, especially the pairing AlSb, CrNb, CrSb, CrTa, FeNb, FeTa, GaSb, RhNb, RhSb, **RhTa** or RbV; or (d) zirconia ZrO2 type. Preferably, the heteroepitaxial material is a ternary alloy of the type Bi1-xInxN, Al1-xInxN, Ga1-xInxN, Al1-xBxP, In1-xBxP and/or AlPxN1-x.

Also claimed is an electronic component having a layer of III-V semiconductor material on a cassiterite type tetragonal system crystalline substrate.

USE - As a large band-gap III-V cpd. semiconductor for use in lasers or LEDs emitting in the visible or near-UV region.

ADVANTAGE - The III-V semiconductor material has very good properties, because of its good lattice parameter matching with the substrate and resulting low defect content, and can itself be used as a substrate for further epitaxy.
Dwg.0/3

L3 ANSWER 10 OF 48 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1997:419723 BIOSIS
DOCUMENT NUMBER: PREV199799718926
TITLE: Characterization of a pleiotropic mutation that confers upon Escherichia coli cells resistance to high concentrations of homoserine and threonine.
AUTHOR(S): Zakataeva, N. P.; Aleoshin, V. A.; Livshits, V. A.
CORPORATE SOURCE: State Inst. Genetics Selection of Industrial Microorganisms, Moscow Russia
SOURCE: FASEB Journal, (1997) Vol. 11, No. 9, pp. A935.
Meeting Info.: 17th International Congress of Biochemistry and Molecular Biology in conjunction with the Annual Meeting of the American Society for Biochemistry and Molecular Biology San Francisco, California, USA August 24-29, 1997
ISSN: 0892-6638.
DOCUMENT TYPE: Conference; Abstract
LANGUAGE: English

L3 ANSWER 11 OF 48 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 97272046 MEDLINE
DOCUMENT NUMBER: 97272046 PubMed ID: 9126891
TITLE: Evaluation of the transient hyperemic response test in head-injured patients.
AUTHOR: Smielewski P; Czosnyka M; Kirkpatrick P; Pickard J D
CORPORATE SOURCE: Medical Research Council Cambridge Centre for Brain Repair and Academic Neurosurgical Unit, Addenbrooke's Hospital, University of Cambridge, England.
SOURCE: JOURNAL OF NEUROSURGERY, (1997 May) 86 (5) 773-8.
Journal code: JD3; 0253357. ISSN: 0022-3085.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199705
ENTRY DATE: Entered STN: 19970602
Last Updated on STN: 20000303
Entered Medline: 19970521

AB The transient hyperemic response test has been shown to provide an index of cerebral autoregulation in healthy individuals and in patients who have suffered a subarachnoid hemorrhage. In this study, the test was applied to patients who had received a severe head injury, and the value of the test was assessed by comparing its result with the individual's clinical condition (Glasgow Coma Scale [GCS] score), cerebral perfusion pressure (CPP), transcranial Doppler wave form-derived index for cerebral autoregulation (relationship between the CPP and the middle cerebral artery flow velocity), and outcome (Glasgow Outcome Scale [GOS] score). Forty-seven patients, aged 16 to 63 years, with head injuries were included in the study. Signals of intracranial pressure, arterial blood pressure, flow velocity, and cortical microcirculatory flux were digitized and recorded for a period of 30 minutes using special computer software. Two carotid compressions were performed at the beginning of each recording. The transient hyperemic response ratio (**THRR**: the ratio of the hyperemic flow velocity recorded after carotid release and the precompression baseline flow velocity) was calculated, as was the correlation coefficient Sx used to describe the relationship between slow fluctuations in the systolic flow velocity and CPP throughout the period of recording. No significant changes in CPP were found during compression. There was a significant correlation between the **THRR** and the Sx ($r = 0.49$, $p < 0.0001$). The hyperemic response proved to be lower in patients who exhibited a poor clinical grade at presentation (GCS scores < 6, $p = 0.01$) and lower in patients achieving a poor outcome (GOS scores of 3, 4, and 5, $p = 0.003$). Loss of postcompression hyperemia occurred when the CPP fell below 50 mm Hg. The carotid compression test provides a simple index of cerebral autoregulation that is relevant to the clinical condition and outcome of the severely head injured patient.

L3 ANSWER 12 OF 48 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 97362404 MEDLINE
DOCUMENT NUMBER: 97362404 PubMed ID: 9218868
TITLE: Differential regulation of human keratinocyte growth and differentiation by a novel family of protease-activated receptors.

AUTHOR: Derian C K; Eckardt A J; Andrade-Gordon P
CORPORATE SOURCE: R.W. Johnson Pharmaceutical Research Institute, Spring House, Pennsylvania 19477-0776, USA.
SOURCE: CELL GROWTH AND DIFFERENTIATION, (1997 Jul) 8 (7) 743-9.
Journal code: AYH; 9100024. ISSN: 1044-9523.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199708
ENTRY DATE: Entered STN: 19970908
Last Updated on STN: 19970908
Entered Medline: 19970822

AB Thrombin receptor (**ThrR**) and protease-activated receptor-2 (PAR-2) are members of a unique G protein-coupled receptor family, which are characterized by the unveiling of a tethered peptide ligand upon proteolysis of their NH2 terminus. We have previously shown that cultured human basal keratinocytes express both receptors (R.J. Santulli et al., Proc. Natl. Acad. Sci. USA, 92: 9151-9155, 1995); however, their functional role in epidermal physiology has yet to be described. In the present study, we determined the effects of receptor activation on keratinocyte cell growth and differentiation using thrombin (selective for **ThrR**), SLIGRL (selective for PAR-2), and SFLLRN (stimulates **ThrR** and PAR-2), as agonists. **ThrR** stimulation enhanced cell growth in a dose-dependent manner in the absence of growth factors (epidermal growth factor and bovine pituitary extract). In contrast, under the same conditions, activation of PAR-2 led to the inhibition of cell growth. This inhibitory activity by PAR-2 activation was also observed in the presence of growth factors. Activation of both receptors diminished protein expression of the differentiation marker transglutaminase type 1 induced by either calcium or IFN-gamma. Calcium-induced involucrin expression was also decreased. These results indicate that PAR-2 and **ThrR** differentially modulate keratinocyte function and may provide an important regulatory function in the epidermis by altering the functional state of keratinocytes.

L3 ANSWER 13 OF 48 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 97124610 MEDLINE
DOCUMENT NUMBER: 97124610 PubMed ID: 8969780
TITLE: Assessment of cerebral autoregulation using carotid artery compression.
COMMENT: Comment in: Stroke. 1997 May;28(5):1087-8
AUTHOR: Smielewski P; Czosnyka M; Kirkpatrick P; McEroy H; Rutkowska H; Pickard J D
CORPORATE SOURCE: MRC Cambridge Centre for Brain Repair and Academic Neurosurgical Unit, Addenbrooke's Hospital, University of Cambridge, UK.
SOURCE: STROKE, (1996 Dec) 27 (12) 2197-203.
Journal code: V2J; 0235266. ISSN: 0039-2499.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199701
ENTRY DATE: Entered STN: 19970128
Last Updated on STN: 19980206
Entered Medline: 19970109

AB BACKGROUND AND PURPOSE: A simple method of testing cerebral autoregulation by observing transcranial Doppler changes in middle cerebral artery flow velocity (FV) during a brief ipsilateral carotid artery compression (the transient hyperemic response test) was studied in 11 normal healthy volunteers. The aim of this study was to assess the reliability of the method and to compare derived autoregulatory indices with those of a standard noninvasive test of autoregulation, Aaslid's leg-cuff test. METHODS: Volunteers were subjected to repeated carotid compressions and leg-cuff tests at different levels of CO2. Hypercapnia was induced using inhalation of a mixture of 5% CO2 in air. Hypocapnia was induced by moderate hyperventilation. To assess the influence of the duration of carotid compression, a series of carotid compressions lasting 3, 4, 5, 7, and 9 seconds were performed in random sequence. Monitored parameters included ipsilateral FV, end-tidal CO2, and arterial blood pressure. The transient hyperemic response ratio (**THRR**), calculated as the maximum increase of FV divided by baseline values after release of the carotid compression, was taken as the autoregulation index. This index was compared with the rate of autoregulation index derived from the leg-cuff test. RESULTS: Both tests were significantly associated with end-tidal CO2 (ANOVA, $P < .000001$ for both carotid compression and cuff test). There was a linear correlation between **THRR** and autoregulation index ($r = .86$). However, the reproducibility of the **THRR** was more

consistent than for the autoregulation index from single tests (13% versus 46%, respectively; P < .0001). Although the influence of the duration of carotid compression on **THRR** values was significant for carotid compressions lasting up to 5 seconds, there was no relation to the relative magnitude of FV drop during the compression. CONCLUSIONS: Brief (> 5 seconds) carotid artery compression provides an index of cerebral autoregulation that is reproducible and is affected by CO2 tension in a fashion similar to autoregulatory indices derived from a standard leg-cuff test. The simplicity of the method provides a potentially useful addition to other noninvasive autoregulation tests for clinical assessments, particularly when repeated measurements are required.

L3 ANSWER 14 OF 48 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 97127151 MEDLINE
DOCUMENT NUMBER: 97127151 PubMed ID: 8972001
TITLE: Biological consequences of thrombin receptor deficiency in mice.
AUTHOR: Darrow A L; Fung-Leung W P; Ye R D; Santulli R J; Cheung W M; Derian C K; Burns C L; Damiano B P; Zhou L; Keenan C M; Peterson P A; Andrade-Gordon P
CORPORATE SOURCE: R. W. Johnson Pharmaceutical Research Institute, Spring House, PA 19477, USA.
SOURCE: THROMBOSIS AND HAEMOSTASIS, (1996 Dec) 76 (6) 860-6. Journal code: VQ7; 7608063. ISSN: 0340-6245.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199703
ENTRY DATE: Entered STN: 19970321
Last Updated on STN: 19970321
Entered Medline: 19970312
AB The thrombin receptor (**ThrR**) is a membrane-bound, G-protein-coupled receptor for the serine protease thrombin. This receptor is expressed in a wide variety of cells and tissues, and elicits a range of physiological responses associated with tissue injury, inflammation, and wound repair. To achieve a better understanding of the physiological role of the **ThrR**, we have employed homologous recombination to create mice with a disrupted **ThrR** gene. Following heterozygous (+/-) intercrosses, a total of 351 surviving offspring were genotyped. Only 7% of these offspring were identified as homozygous (-/-) for the disrupted allele, indicating a profound effect on embryonic development. Paradoxically, adult **ThrR**-/- mice appeared to be normal by anatomical and histological analysis, including their platelet number and function. Similarly, **ThrR** deficiency had no detectable effect in adult **ThrR**-/- mice on basal heart rate, arterial blood pressure, vasomotor responses to angiotensin II and acetycholine, and coagulation parameters, even though the **ThrR** is expressed in many cardiovascular tissue types. In addition, the loss of **ThrR** function in the peripheral vasculature of adult **ThrR**-/- mice was confirmed by the absence of various standard hemodynamic effects of the **ThrR**-activating peptides SFLLRN-NH2 and TFLLRNPNDK-NH2. Our results indicate that **ThrR** deficiency has a strong impact on fetal development; however. **ThrR**-/- mice that proceed to full development display surprisingly little change in phenotype compared to the wild-type.

L3 ANSWER 15 OF 48 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1996:570274 BIOSIS
DOCUMENT NUMBER: PREV199799284955
TITLE: Playback interactions with great crested flycatchers, Myiarchus crinitus (Aves, Tyrannidae.
AUTHOR(S): Smith, W. John (1); Smith, Anne Marie
CORPORATE SOURCE: (1) Dep. Biol., Univ. Pennsylvania, Philadelphia, PA 19104-6018 USA
SOURCE: Ethology, (1996) Vol. 102, No. 9, pp. 724-735. ISSN: 0179-1613.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Interactive playback was used to test observational findings that different vocalizations uttered by singing great crested flycatchers, Myiarchus crinitus (Aves, Tyrannidae), each provide distinctive information about behavior. We present the results of these tests and interpret their significance in combination with the observations. The following predictions were confirmed: 1. Few wep or weeuh songs, and no **thrr**, were uttered by subjects that approached playback; 2. Churr, common during observations of more active and changing behavior, often predominated during subjects' initial approaches and searches for simulated intruders; 3. Churr was succeeded by wit, which had been found

during confrontational behavior, and weihp, which came with movement near opponents or playback; and 4. Quick answers to vocalizations of mates, opponents, and playback were with met, also uttered during attack behavior. Functionally, birds uttering the unassertive vocalizations (weep, weeuh, and **thrr**) may have been taking only minimal initiative to interact, and simply advertising their presence and potential responsiveness. With increasing numbers of churr, subjects maintained social contact with mates or opponents or probed for responses from quieter birds. Wit and weibp may strongly provoke opponents to respond. Further escalation involved rreet, weeet, and wi In contrast, ch-ee was a defensive threat. This species sings with more vocalizations than do other tyrannids we have studied. Its vocalizations correlate with relatively fine distinctions among behavioral categories. Yet the vocalizations, like those of the other species, provide information about different extents of initiative that a singer win show in interacting. Such information could be fundamentally important in shaping and stabilizing social relationships, not just of tyrannids but also of many other kinds of animals that use singing to interact with one another while at a distance.

L3 ANSWER 16 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-125544 [17] WPIDS
DOC. NO. CPI: C1995-057011
TITLE: Prepn. of food or drink contg. alcohol drink, bread, fermented condiment - uses Saccharomyces cerevisiae having methyl **threonine resistance**.
DERWENT CLASS: D13 D16
PATENT ASSIGNEE(S): (KYOW) KYOWA HAKKO KOGYO KK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 07046978	A	19950221	(199517)*		8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 07046978	A	JP 1993-194741	19930805

PRIORITY APPLN. INFO: JP 1993-194741 19930805
AN 1995-125544 [17] WPIDS
AB JP 07046978 A UPAB: 19950508
The drink or the food is prepared, using yeast belonging to Saccharomyces and having methyl **threonine resistance**. The yeast comprises saccharomyces cerevisiae having methyl **threonine resistance**. Fermentation is done at a pH of 3.5 - 5.5 and a temp. of 5 - 25 deg.C. for 10 - 30 days.

USE/ADVANTAGE - The method prepares a food or a drink, including alcohol drink, bread, or a fermented condiment. The methyl threonine-resistant stock belonging to the Saccharomyces prepares the food or the drink having high aroma and contg. a large amt. of alcohol, including active amylalcohol, a propyl alcohol useful as an aromatic component. The alcohol drink comprises shochu, whisky, wine, or sake. The fermented condiment comprises a sweet sake, or a sake-like condiment. Dwg.0/0

L3 ANSWER 17 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1994:316907 CAPLUS
DOCUMENT NUMBER: 120:316907
TITLE: Threonine synthesis from homoserine as a selectable marker in mammalian cells
AUTHOR(S): Rees, William D.; Grant, Steven D.; Hay, Susan M.; Saqib, Khalid M.
CORPORATE SOURCE: Rowet Res. Inst., Bucksburn/Aberdeen, UK
SOURCE: Biochem. J. (1994), 299(3), 637-44
CODEN: BIJOAK; ISSN: 0264-6021
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The plasmid pSVthrBC expresses the Escherichia coli thrB (homoserine kinase) and thrC (threonine synthase) genes in mouse cells and enables them to synthesize threonine from homoserine. After transfection with pSVthrBC and culture in medium contg. homoserine, only cells that have incorporated pSVthrBC survive. Homoserine at concns. greater than 1 mM is toxic to mammalian cells. Mouse cells selected from medium contg. 5 mM homoserine had incorporated 20-100 copies of the plasmid per cell and homoserine kinase activities of 0.001-0.012 nmol/min per mg of protein per

copy. Cells selected from medium contg. 10 mM homoserine had incorporated one or two copies of the plasmid per cell and had homoserine kinase activities of 0.06-0.39 nmol/min per mg of protein per copy. By using high concns. of homoserine, it is possible to use pSVthrBC to select and isolate cell lines that have one or two copies of the plasmid incorporated into an active region of chromatin. CHO and HeLa cells have also been successfully transfected with pSVthrBC. COS-7 cells are naturally resistant to homoserine as they are able to metabolize homoserine.

L3 ANSWER 18 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:313579 CAPLUS
DOCUMENT NUMBER: 122:77034
TITLE: Selection and analysis of sainfoin callus line resistant to lysine plus threonine
AUTHOR(S): Zhang, Chunyi; Yang, Hanmin
CORPORATE SOURCE: Dep. Biol., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China
SOURCE: Lanzhou Daxue Xuebao, Ziran Kexueban (1994), 30(3), 92-6
CODEN: LCTHAF; ISSN: 0455-2059
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB By use of tissue culture techniques, a variation callus line resistant to growth inhibition by lysine plus threonine (LT) was isolated from sainfoin calli. After growing on the absence of LT 6 mo, the LT-resistant callus line kept on showing a high level of resistance which was 1.5 times as high as that of the wild type. LT resistance was transmitted to the secondary cultures initiated from the LT-resistant regenerants. The free pool of lysine, threonine, methionine, and isoleucine increased by 1.4-54 times in LT-resistant cells. The activity of key enzyme in lysine biosynthesis, aspartokinase, was similar in resistant and wild-type cells, but the lysine feedback inhibition sensitivity of the enzyme from the LT-resistant cultures decreased by 50% in comparison with that of the wild-type cells in the presence of 2 mmol/L lysine.

L3 ANSWER 19 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 11
ACCESSION NUMBER: 1992:444747 CAPLUS
DOCUMENT NUMBER: 117:44747
TITLE: Fertility, inheritance and amino acid analysis of lysine plus threonine-resistant mutant progenies of maize
AUTHOR(S): Miao, Shuhua; He, Liming; Xiao, Liang
CORPORATE SOURCE: Chengdu Inst. Biol., Acad. Sin., Chengdu, 610015, Peop. Rep. China
SOURCE: Zhiwu Xuebao (1992), 34(2), 90-5
CODEN: CHWHAY; ISSN: 0577-7496
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Sixth generation of mutant size seeds homozygous for lysine plus **threonine resistance** which was derived from the resistant callus cultures has been harvested. The resistance could be inherited stably. The fertility, however, was very poor. The resistant homozygotes have been obtained by backcross of the wild type with the resistant plants (W77-R3019 .times. R0), and their fertility could be partly recovered after selection for the resistant plants from backcross progenies. Genetic anal. showed that the resistance inherited as a single dominant nuclear allele. All of the free amino acids except phenylalanine in the homozygote are increased by 4-fold and free essential amino acids by 5-fold which are higher than those in the wild types. Total amino acids increased by 5.53%. The dramatic increase (11-times) in free threonine adds up the total threonine by 17.73%. Difference of the protein content between the homozygote and wild type was not obvious. These results show that selection for the resistance to lysine plus threonine in maize and other cereals is probably very useful for improving their value of protein nutrition.

L3 ANSWER 20 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1991-112667 [16] WPIDS
DOC. NO. CPI: C1991-048351
TITLE: New calcitonin homologue - is 1,7-di-alanine, des-22-tyrosine calcitonin.
DERWENT CLASS: B04
PATENT ASSIGNEE(S): (ASAG) ASAHI GLASS CO LTD; (CHUS) CHUGAI PHARM CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 03052899	A	19910307	(199116)*		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 03052899	A	JP 1989-188650	19890720

PRIORITY APPLN. INFO: JP 1989-188650 19890720
AN 1991-112667 [16] WPIDS
AB JP 03052899 A UPAB: 19930928
1,7-di-alanine, des-22-tyrosine (I) is an eel (I)-substituted homolog, a salmon (I)-substituted homolog or a chicken (I)-substituted homolog, pref. having the formula
AAla-Ser-Asn-Leu-Ser-Thr-Ala -Val-Leu-Gly-Lys-Leu-Ser-Gln-Glu-Leu-His-Lys-Leu-Gln-Thr-Pro-Arg -**Thrr**-Asp-Val-Gly-Ala-Gly-Thr-Pro-NH2,
Ala-Ser-Asn-Leu-Ser-Thr-Ala -Val-Leu-Gly-Lys-Leu-Ser-Gln-Glu-Leu-His-Lys-Leu-Gln-Thr-Pro-Arg -Thr-Asn-Thr-Gly-Ser-Gly-Thr-Pro-NH2 or
Ala-Ala-Ser-Leu-Ser-Thr-Ala -Val-Leu-Gly-Lys-Leu-Ser-Gln-Glu-Leu-His Lys-Leu-Gln-Thr-Pro-Arg-Thr -Asp-Val-Gly-Ala-Gly-Thr-Pro-NH2.
USE/ADVANTAGE - The cpd. is stable and easily synthesised.
0/0

L3 ANSWER 21 OF 48 MEDLINE DUPLICATE 12
ACCESSION NUMBER: 92131770 MEDLINE
DOCUMENT NUMBER: 92131770 PubMed ID: 1775448
TITLE: [Comparative study of E. coli strains producing amino acids].
Sravnitel'noe izuchenie shtammov E. coli, produtsiruiushchikh aminokisloty.
AUTHOR: Astaurova O B; Myslovataia M L; Timokhina E A; Belareva A V; Kapitonova O N
SOURCE: PRIKLADNAIA BIOKHIMIIA I MIKROBIOLOGIIA, (1991 Sep-Oct) 27 (5) 731-7.
Journal code: PM5; 0023416. ISSN: 0555-1099.
PUB. COUNTRY: USSR
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199203
ENTRY DATE: Entered STN: 19920322
Last Updated on STN: 19920322
Entered Medline: 19920302
AB Transduction of the locus of stability to high threonine concentrations (**Thrr**) into E. coli str M1 and C600 resulted in enhancements of the amino acid production and retardation of the culture development. Besides the mutation caused increase of the specific activity of glutamate synthase, aspartate kinase and homoserine dehydrogenase. The cells of the mutant strains had poorly developed walls and were smaller than those of the parent strains.

L3 ANSWER 22 OF 48 MEDLINE DUPLICATE 13
ACCESSION NUMBER: 91365558 MEDLINE
DOCUMENT NUMBER: 91365558 PubMed ID: 1889941
TITLE: Peak heart rates during maximal running and swimming: implications for exercise prescription.
AUTHOR: DiCarlo L J; Sparling P B; Millard-Stafford M L; Rupp J C
CORPORATE SOURCE: Exercise Science Laboratory, Georgia Institute of Technology, Atlanta 30332-0110.
SOURCE: INTERNATIONAL JOURNAL OF SPORTS MEDICINE, (1991 Jun) 12 (3) 309-12.
Journal code: GRK; 8008349. ISSN: 0172-4622.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199110
ENTRY DATE: Entered STN: 19911103
Last Updated on STN: 19911103
Entered Medline: 19911015
AB Thirty-four college-age fitness swimmers, 19 males and 15 females, were maximally tested during treadmill running (TR) and tethered swimming (TS). A discontinuous, graded test protocol was used for both TR and TS with 2-min stages and 1-min rest periods. Peak HRs were obtained via a UNIQ CIC monitor during the last 120 s of each stage. Blood lactate was measured at 3 min post exercise using a YSI Model 27 Analyzer. TS peak HR was significantly lower (p less than 0.05) than both the age-predicted HRmax (220-age) and TR peak HR by 13 and 11 bt.min-1, respectively. Blood lactate for TS (8.0 mmol.l-1) and TR (8.1 mmol.l-1) were similar. Mean

target heart rate range (**THRR**) calculated from TS peak HR (144-176 bt.min-1) was significantly lower than **THRR** calculated from age-predicted max HR (151-187 bt.min-1) and TR peak HR (151-186 bt.min-1). For young adult fitness swimmers, we suggest reducing the HRmax obtained from treadmill exercise or predicted from age by 12 bt.min-1. This correction appears to be a reasonable estimate of swimming HRmax that can be used for calculating exercise intensity.

L3 ANSWER 23 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:675958 CAPLUS
DOCUMENT NUMBER: 115:275958
TITLE: High threonine producer mutant of Nicotiana sylvestris (Spegg. and Comes)
AUTHOR(S): Frankard, V.; Ghislain, M.; Negrutiu, I.; Jacobs, M.
CORPORATE SOURCE: Inst. Mol. Biol., Vrije Univ. Brussel, Genesius Rode, B-1640 SINT, Belg.
SOURCE: Theor. Appl. Genet. (1991), 82(3), 273-82
CODEN: THAGA6; ISSN: 0040-5752
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mutagenesis and the subsequent selection of mesophyll diploid protoplasts of N. sylvestris on growth inhibitory concns. of lysine plus threonine (LT) has led to the isolation of an LT-resistant mutant. Regeneration of this line (RLT 70) and anal. of its descendants demonstrated the dominant monogenic nuclear character of the resistance gene, further named ak-LT1. When the inhibition properties of aspartate kinase (AK) were examd. in the homozygous mutant, lysine-sensitive activity could no longer be detected. In comparison, 70-80% of the wild-type enzyme activity was usually inhibited by lysine, and the rest by threonine. Evidence for the existence of at least 2 AK isoenzymes was obtained by ion-exchange chromatog., where 2 peaks of activity could be detected: the first one to be eluted is lysine sensitive, and the second one threonine sensitive. One consequence of the altered regulation of AK in the mutant was the enhanced prodn. of sol. threonine. Threonine accumulation was obsd. to occur throughout the life cycle of the mutant plant as well as in its different organs. In particular, leaves exhibited a 45-fold increment of sol. threonine, which corresponds to a 13-fold increase in total threonine: almost one-third of the total amino acids was free and protein-bound threonine. In RLT 70 seeds, 20% of the free amino acid pool was in the form of threonine (70-fold accumulation compared to the wild type), and total threonine content was increased 5-fold. As a general rule, the other amino acids were also more abundant in RLT 70 seeds, such that the total of amino acids present was between 2-4 times higher, but in contrast with the situation encountered in leaves, this was also due to a higher protein-bound amino acid content.

L3 ANSWER 24 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:628520 CAPLUS
DOCUMENT NUMBER: 115:228520
TITLE: Progress in the characterization of mutants resistant to lysine plus threonine in Sorghum bicolor
AUTHOR(S): Vaernaillen, S.; Jacobs, M.
CORPORATE SOURCE: Lab. Plantengenet., Vrije Univ. Brussel, St. Genesius-Rode, B-1640, Belg.
SOURCE: Meded. Fac. Landbouwwet., Rijksuniv. Gent (1990), 55(4), 1419-21
CODEN: MFLRA3; ISSN: 0368-9697
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The resistance to lysine plus threonine of selected sorghum lines was well established at the seed level. At the embryo level, the resistance is not clear for all candidates, even when tested at lower lysine plus threonine concns. Amino acid overprodn. is not always present at the same level. This could be the result of a change in the amino acid content as a function of the physiol. stage of the plant.

L3 ANSWER 25 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:608487 CAPLUS
DOCUMENT NUMBER: 113:208487
TITLE: Biochemical genetics of the interaction of the lysine plus threonine-resistant mutant Ltr*1 with opaque-2 maize mutant
AUTHOR(S): Azevedo, Ricardo A.; Arana, Jose L.; Arruda, Paulo
CORPORATE SOURCE: Inst. Biol., Univ. Estad. Campinas, Campinas, 13081, Brazil
SOURCE: Plant Sci. (Limerick, Irel.) (1990), 70(1), 81-90
CODEN: PLSCE4; ISSN: 0168-9452
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The lysine plus threonine (LT) resistant maize mutant Ltr*1 selected by culturing maize cells in the presence of lysine plus threonine was transferred by repeated back-crosses to maize inbred lines contg. normal, britle (bt), shrunken-2 (sh2) and opaque-2 (o2) endosperms. Genetic anal. located the Ltr*1 gene on the short arm of chromosome 7 at 10.6 centimorgans from the o2 gene. The presence of the Ltr*1 gene increased the level of sol. threonine in the normal endosperm by 8-18-fold. A synergistic effect on the increase of sol. threonine was obsd. when the Ltr*1 gene was combined with endosperm mutations. An increase of 45-144-fold in sol. threonine and 3-10-fold in total sol. amino acid pool was obsd. in the double mutant Ltr*1Ltr*1/o2o2 when compared with o2 and normal endosperms, resp. In general, it was obsd. that the Ltr*1 gene intensified the effect of the o2 gene on amino acid and protein synthesis in maize endosperm.

L3 ANSWER 26 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:244375 CAPLUS
DOCUMENT NUMBER: 114:244375
TITLE: Isolation and characteristic of wheat mutants resistant to S-aminoethylcysteine, lysine and threonine
AUTHOR(S): Sidorov, V. A.; Morgun, V. V.; Logvinenko, V. G.; Matveeva, N. A.
CORPORATE SOURCE: Inst. Bot., Kiev, USSR
SOURCE: Tsitol. Genet. (1990), 24(5), 37-42
CODEN: TGANAK; ISSN: 0564-3783
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Embryos from M2 progeny of chem. mutated winter wheat were selected on agar with 0.25 mM S-aminoethylcysteine (I), and reproduced in the greenhouse and the field. M4 embryos were again selected with I. The selected progeny had elevated spike length and the no. and wt. of grains in the spike in all the lines of one variety tested, and in no line of the other variety. Calli from immature embryos of winter and spring wheat were cultured for 10 days and then .gamma.-irradiated at 7 Gr and selected with 1 mM lysine + 1 mM threonine on a shoot-inducing medium. Lysine decreased the frequency of regeneration to 30.0-90.9% of controls, depending on variety.

L3 ANSWER 27 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 14
ACCESSION NUMBER: 1989:495639 CAPLUS
DOCUMENT NUMBER: 111:95639
TITLE: Manufacture of L-threonine with L-homoserine-resistant Escherichia species
INVENTOR(S): Yamada, Masanari; Fukuyama, Mitsuo; Yomoto, Kiyosuke
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01039996	A2	19890210	JP 1987-196982	19870806

AB L-Threonine (I) is manufd. from a culture of L-homoserine (II)-resistant Escherichia sp. II-resistant E. coli EH-92, isolated from N-methyl-N'-nitro-N-nitrosoguanidine-treated E. coli (ATCC 21248), was shake-cultured in a liq. medium (pH 6.8) contg. glucose, DL-methionine, L-valine, and salts at 30.degree. for 72 h to give 13.8 wt.% (based on utilized glucose) I, vs. 9.7 wt.% for a control parent strain.

L3 ANSWER 28 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1990-006528 [01] WPIDS
CROSS REFERENCE: 1984-056396 [10]; 1985-140980 [23]; 1986-119165 [18]; 1986-143829 [22]; 1986-225458 [34]
DOC. NO. CPI: C1990-002841
TITLE: New gene encoding mutein of interleukin-2 - having Cys-125 replaced by neutral amino acid to prevent incorrect di sulphide bridge formation during reoxidation..
DERWENT CLASS: B04 D16
INVENTOR(S): LIN, L S; MARK, D F; YULU, S D
PATENT ASSIGNEE(S): (CETU) CETUS ONCOLOGY CORP; (CETU) CETUS CORP
COUNTRY COUNT: 2
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

US 4853332	A	19890801 (199001)*
IL 90047	A	19921230 (199309)#

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 4853332	A	US 1984-684483	19841221
IL 90047	A	IL 1983-90047	19831014

FILING DETAILS:

PATENT NO	KIND		PATENT NO
IL 90047	A	Div ex	IL 69970

PRIORITY APPLN. INFO: US 1984-684483 19841221; IL 1983-90047 19831014

AN 1990-006528 [01] WPIDS

CR 1984-056396 [10]; 1985-140980 [23]; 1986-119165 [18]; 1986-143829 [22]; 1986-225458 [34]

AB US 4853332 A UPAB: 19970723

New structural gene has a DNA sequence encoding a synthetic interleukin-2 mutein (I) in which Cys-125 of the native protein has been replaced by a neutral amino acid. Also new are (1) expression vectors contg. this gene and (2)host cells transformed with such vectors.

More specifically the neutral amino acid is Ser, **Thrr**, Galy, Val, Leu, Ile, His, Tyr, Phe, Try or Met, best Ser, and the pref. host is E. coli. The specification includes the sequence (402 nucleotides) for the gene encoding (I) with Ser-125.

USE/ADVANTAGE - Alteration of Cys-125 (which is not essential for activity) prevents formation of incorrect intramolecular disulphide

L3 ANSWER 29 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1989-089710 [12] WPIDS

DOC. NO. CPI: C1989-039778

TITLE: Prepn. of L-threonine by fermentation - involves culturing Providencia sp. microbe having L-**homoserine resistance** and collecting L-threonine.

DERWENT CLASS: B05 D16 E16

PATENT ASSIGNEE(S): (TORA) TORAY IND INC

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 01039995	A	19890210	(198912)*		4
JP 03046113	B	19910715	(199132)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 01039995	A	JP 1987-196981	19870806
JP 03046113	B	JP 1987-196981	19870806

PRIORITY APPLN. INFO: JP 1987-196981 19870806

AN 1989-089710 [12] WPIDS

AB JP 01039995 A UPAB: 19930923

Microbe which belongs to Providencia sp., has L-**homoserine resistance**, and has L-threonine producing ability, is cultured to produce and cumulate L-threonine in the cultured soln., from the cultured soln. and then L-threonine is collected.

USE/ADVANTAGE - L-threonine can be produced in high yield and high cumulating concn. at low cost.

In an example, as homoserine resistant strain, Providencia rettgeri OTR 28-31 was used. It was treated by common method (N-methyl-N'-nitro-N-nitrosoguanidine treatment, then cultured on L-homoserine, L-leucine, L-isoleucine added agar medium at 30 deg. C (for 5-7 days), and L-homoserine resistant strain Providencia rettgeri HSR 1-33 was obtd. It was shaken precultured on liq. Bouillon medium at 30 deg. C for 20 hours, and inoculated on 40 ml of sterilised medium (glucose 8%, (NH4)2SO4 3%, KH2PO4 0.1%, MgSO4.7H2O 0.04%, Fe++ 2 ppm, Mn++ 2 ppm. L-isoleucine 0.005% L-leucine 0.06%, CaCO3 4%; pH 7 neutralised with NaOH) and cultured at 30 deg. C, 150 r.p.m. for 72 hours. After culture, whole cells and CaCO3 were removed from the broth, L-threonine content in the filtrate was

analysed by aminoacid autoanalyser. Cumulated amt. and yield of L-threonine was 28.4 g/l and 36.6% respectively. When parent strain (Providencia rettgeri OTR 28-31) was used, they were 26.6 g/l and 31.3% respectively.
0/0

L3 ANSWER 30 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:95659 CAPLUS
DOCUMENT NUMBER: 112:95659
TITLE: Utilization of isolated embryo culture on lysine-threonine medium in maize breeding for grain quality
AUTHOR(S): Belousov, A. A.; Ignatova, S. A.; Luk'yanyuk, S. F.
CORPORATE SOURCE: All-Union Inst. Plant Breeding Genet., Odessa, USSR
SOURCE: Genetika (Moscow) (1989), 25(10), 1802-10
CODEN: GNKAA5; ISSN: 0016-6758
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The resistance of isolated embryos from opaque-2 corn lines to growth inhibition by 2.5 mM lysine-threonine increased with increasing grain lysine and protein. The resistance was better expressed in the shoots than in the roots. The resistant lines also were high in grain aspartic acid, tyrosine and leucine, and low in proline. Thus, culturing on lysine-threonine media might be used in opaque-2 corn selection.

L3 ANSWER 31 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 15
ACCESSION NUMBER: 1989:454309 CAPLUS
DOCUMENT NUMBER: 111:54309
TITLE: Selection and characterization of alfalfa cell lines resistant to lysine + threonine and/or ethionine
AUTHOR(S): Binarova, P.; Novotny, F.; Nedbalkova, B.
CORPORATE SOURCE: Inst. Exp. Bot., Czech. Acad. Sci., Prague, Czech.
SOURCE: Biochem. Physiol. Pflanz. (1989), 185(1-2), 99-107
CODEN: BPPFA4; ISSN: 0015-3796
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In highly embryogenic suspension cultures of Medicago sativa, lysine + threonine (Lys + **Thrr**)-resistant or ethionine (Ethr)-resistant cell lines were selected. Out of 78 Lys + **Thrr** variants isolated, 57 were constantly resistant to Lys + Thr. In 3 of Lys + **Thrr** cell variants overproducing **threonine**, **resistance** was attributed to altered aspartate kinase (AK), showing reduced sensitivity to feedback inhibition by lysine. These biochem. changes were stable during long-term culture in the absence of selection agents, and they manifested themselves at the level of regenerated somatic embryos and in embryo-derived calli. Somatic embryos regenerated from Lys + **Thrr** cell variants were not able to develop into complete plants (in contrast to abundantly regenerating control cell lines). Elevated free lysine and threonine levels were recorded in isolated Ethr resistant cell lines. AK extd. from these lines was normally sensitive to feedback inhibition by lysine and threonine; this enzyme exhibited a 5-fold specific activity as compared to the control. The biochem. changes under consideration were not stable in the course of the culture without selection agents and they were not expressed at the level of regenerants.

L3 ANSWER 32 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1988-202842 [29] WPIDS
DOC. NO. CPI: C1988-090652
TITLE: L-Threonine prodn. by fermentation - using gamma, gamma-di chloro threonine resistant Escherichia strain.
DERWENT CLASS: B05 C03 D13 D16 E16
PATENT ASSIGNEE(S): (MITK) MITSUI TOATSU CHEM INC
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 63141592	A	19880614	(198829)*		3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 63141592	A	JP 1986-286750	19861203

PRIORITY APPLN. INFO: JP 1986-286750 19861203
AN 1988-202842 [29] WPIDS

AB JP 63141592 A UPAB: 19930923
Fermentative prepn. of L-threonine is effected by L-threonine productive, but gamma,gamma- dichlorothreonine resistant Escherichia strain.
The variant is induced by conventional methods such as UV irradiation or treatment with N-Me-N'-NO2-N-NO-guanidine of E. coli such as ATCC 21148, ATCC 21150 pref. L-methionine, L-lysine, L-isoleucine, requiring variant. An antibiotic resistant strain may be used.
USE/ADVANTAGE - L-Threonine is useful for medicine intermediates, transfusion soln. and feed additives and is produced in high yield by the fermentation. The Escherichia variant produces L-threonine cultivation medium at a rate 14 times that of a normal strain.
0/0

L3 ANSWER 33 OF 48 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1988:177988 BIOSIS
DOCUMENT NUMBER: BA85:90090
TITLE: ISOLATION AND CHARACTERIZATION OF VALINE-RESISTANT MUTANTS OF NICOTIANA-PLUMBAGINIFOLIA.
AUTHOR(S): MARION-POLL A C M; GOUJAUD J; CABOCHE M
CORPORATE SOURCE: LAB. DE BIOL. CELLULAIRE, INRA, F-7800 VERSAILLES, FRANCE.
SOURCE: THEOR APPL GENET, (1988) 75 (2), 272-277.
CODEN: THAGA6. ISSN: 0040-5752.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Haploid mesophyll protoplasts of Nicotiana plumbaginifolia were mutagenized by UV-irradiation. Protoplast-derived colonies were then selected for valine resistance on a medium containing 5 or 10 mM valine. From the resistant calli, plants were regenerated. Resistance was inherited as a recessive Mendelian character in seven clones. Mutations conferring valine resistance were shown to be allelic. Protoplast-derived cells of L-valine-resistant plants were also resistant to L-**threonine**. **Resistance** to valine was based on a reduced valine uptake rate.

L3 ANSWER 34 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 16
ACCESSION NUMBER: 1988:489952 CAPLUS
DOCUMENT NUMBER: 109:89952
TITLE: Relationship between lysine plus **threonine resistance** and threonine overproduction in rice (Oryza sativa L.) seedlings
AUTHOR(S): Hasegawa, Hiroshi
CORPORATE SOURCE: Radiat. Cent. Osaka Prefect., Sakai, 593, Japan
SOURCE: Ikushugaku Zasshi (1988), 38(1), 10-16
CODEN: IKZAAD; ISSN: 0536-3683
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The relationship between resistance to lysine plus threonine equimolar soln. (LT) and free amino acid contents in 10 rice varieties was studied. When seeds were germinated and cultured in 5 .times. 10-4M LT for 7 days, a difference in the extents of growth inhibition among the varieties was clearly recognized. Free threonine contents in both seeds and 14-day-old seedlings were also varied among varieties. In particular, free threonine contents in the seedlings of Shirowase and Binicol, which were classified as LT resistant varieties, were much higher than those of the other varieties. Threonine contents of the two varieties were over 17,000 nmol/g fresh wt., while the contents of the other 8 varieties were below 8000 nmol/g fresh wt. Free lysine contents also increase in the seedlings with increased levels of LT resistance, but not as much as free threonine contents. On the other hand, none of the varieties used in this expt. overproduced free threonine and lysine in the seeds. It is suggested that LT resistance can be used as a parameter for breeding crops with higher threonine contents.

L3 ANSWER 35 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:526016 CAPLUS
DOCUMENT NUMBER: 109:126016
TITLE: Selection of regenerable maize callus cultures resistant to 5-methyl-DL-tryptophan, S-2-aminoethyl-L-cysteine and high levels of L-lysine plus L-threonine
AUTHOR(S): Miao, Shuhua; Duncan, David R.; Widholm, Jack
CORPORATE SOURCE: Dep. Agron., Univ. Illinois, Urbana, IL, 61801, USA
SOURCE: Plant Cell, Tissue Organ Cult. (1988), 14(1), 3-14
CODEN: PTCEDJ; ISSN: 0167-6857
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Tissues resistant to lethal levels of equimolar L-lysine plus L-threonine (LT), 5-methyl-DL-tryptophan (5MT, a tryptophan analog), or S-2-aminoethyl-L-cysteine (AEC, a lysine analog) were selected from maize

callus capable of plant regeneration (H99 and W77-R3019 genotypes). Resistance to LT resulted from resistant calli having a 19 times greater level of free threonine than wild type tissues. The resistance was expressed in roots of whole plants; threonine levels were 2-9 times greater in leaves and kernels of resistant plants than in wild type plants. Slightly greater levels of isoleucine, lysine and methionine were also noted, particularly in the kernel. Genetic studies with individual resistant plants did not always produce inheritance ratios typical of simple Mendelian inheritance, but by the third generation after plant regeneration a trend towards homozygosity was apparent and the data suggests that LT resistance is inherited as a single dominant nuclear gene. Resistance to 5MT resulted from resistant calli having a 133-161 times greater level of free tryptophan than wild type tissues. Also, phenylalanine was 22-30 times as great and histidine, tyrosine and valine were about 2 times as great as in wild type tissues. Resistance was expressed in roots of whole plants, and tryptophan levels were .gtoreq.2000 times greater in resistant than in wild type plants. phenylalanine was also 32 times greater. All regenerant plants resistant to 5MT were both male and female sterile. Resistance to AEC was caused by decreased AEC uptake by the callus tissue and was not due to increased levels of free lysine. Plants were not regenerated from this callus.

L3 ANSWER 36 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:164917 CAPLUS
DOCUMENT NUMBER: 108:164917
TITLE: Selection of lysine plus threonine-resistant mutant of maize
AUTHOR(S): Miao, Shuhua; Duncan, D. R.; Widholm, J. M.
CORPORATE SOURCE: Chengdu Inst. Biol., Acad. Sin., Chengdu, Peop. Rep. China
SOURCE: Zhiwu Xuebao (1987), 29(6), 565-72
CODEN: CHWHAY; ISSN: 0577-7496
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Resistance to certain amino acids or amino acid analogs can lead to overprodn. of specific free amino acids. By selection-mutagenic treatment-selection, a lysine plus threonine-resistant mutant (RLT) was obtained from tissue culture of maize. The resistance of RLT was 20 times higher than that of the wild type. The levels of all free aspartate family amino acids in RLT were higher than those in the wild type. Threonine, in particular, was 20 times higher. The resistance was heritable and segregation in progenies, RLT1 and F1, approximated to 3:1 and 1:1 resistant/sensitive ratios, resp. The resistance was inherited as a single dominant or semidominant nuclear gene. In RLT2 embryo cultures, the resistance and free threonine levels in resistant callus were 20 and 23 times higher than those in the sensitive one, resp. In homozygous seeds of RLT2, the levels of free threonine, arginine, lysine, methionine, and isoleucine were 11, 8, 5, 5, and 3 times higher than those of the wild type.

L3 ANSWER 37 OF 48 MEDLINE DUPLICATE 17
ACCESSION NUMBER: 86042577 MEDLINE
DOCUMENT NUMBER: 86042577 PubMed ID: 3932995
TITLE: [Amination in E. coli strains effectively producing threonine].
Aminirovanie u stammov E. coli, effektivno produtsiruiushchikh treonin.
AUTHOR: Astaurova O B; Livshits V A; Belareva A V; Sokolov A K
SOURCE: PRIKLADNAIA BIOKHIMIIA I MIKROBIOLOGIIA, (1985 Sep-Oct) 21 (5) 611-6.
Journal code: PM5; 0023416. ISSN: 0555-1099.
PUB. COUNTRY: USSR
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198512
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19851216
AB The effect of the mutation of threonine and **homoserine resistance** (**thrr**) on the activity of the enzymes catalysing the biosynthesis of glutamic acid, glutamate synthase (EC 1.4.1.13) and glutamate dehydrogenase (EC 1.4.1.4), and on the productivity of a threonine-producing E. coli strain obtained by gene engineering was being studied. The resistance to threonine was found to correlate well with the increasing activities of the abovementioned enzymes and with a higher productivity of the E. coli strain.

L3 ANSWER 38 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1985-152038 [25] WPIDS
DOC. NO. NON-CPI: N1985-114632
TITLE: Metal parallel stamping - involves feeding material in successive increased length steps and repeating cycle.
DERWENT CLASS: P52
PATENT ASSIGNEE(S): (SERG-I) SERGEEV A I
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
SU 1129002	A	19841215	(198525)*		6

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
SU 1129002	A	SU 1974-2080648	19741203

PRIORITY APPLN. INFO: SU 1974-2080648 19741203; SU 1974-X450344 19741203
AN 1985-152038 [25] WPIDS
AB SU 1129002 A UPAB: 19930925
Sheet metal parallel stamping involves feeding the material by variable steps. The smallest starting step is equal to the size of cut A (n-1) followed by A(n(k-1)+1) : where K = number of similar operation of separating the detail from the strip of material. Maximum number of operations are performed simultaneously.

The punches (4) and (5) are located at a distance 2A where A is cutting step. There are two side knives (7) and (8) the latter length equal to cutting step A. The distance between the knife (6) rear edge and the knife (8) front edge is equal to 5A and the distance between the knife (8) rear edge and knif knife (6) front edge is equal to cutting step. A projection (9) made in the plate (3) is aligned with the knife (8) edge.

The material is fed to a stop (9) and knives (6,8) trim the sides, whilst the punches (4) cut three paris of openings. The material is fed by a distance A equal to the edge length cut by the knife (8) again to the stop (9). The knife (8) cuts the part of the edge remaining between the knives and the knife (6) remove a width equal to the knife (8) length. The punches (4) cut again three pairs of openings. The material is fed by a step equal to 5A, the knives (6,8) cut the sides, the punches (4) the openings and the punches (5) cut out **thrr** three details. The cycle is repeated.

USE/ADVANTAGE - For parallel stamping of sheet metal. Reduces material end losses and is more economical. Bul.46/15.12.84
1/6

L3 ANSWER 39 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:403169 CAPLUS
DOCUMENT NUMBER: 99:3169
TITLE: Selection of tobacco protoplast-derived cells for resistance to amino acids and regeneration of resistant plants
AUTHOR(S): Bourgin, Jean Pierre
CORPORATE SOURCE: Lab. Biol. Cell., INRA, Versailles, F 78000, Fr.
SOURCE: NATO Adv. Sci. Inst. Ser., Ser. A (1983), 61(Genet. Eng. Eukaryotes), 195-214
CODEN: NALSDJ
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cell colonies derived from UV-mutagenized mesophyll protoplasts of haploid tobacco (Nicotina tabacum) were subjected to selection in a medium contg. toxic concns. of either L-valine or L-lysine plus L-threonine. Among the plants regenerated from colonies thus recovered in various expts., 7 were resistant to valine (Valr mutants) and 2 to lysine plus threonine (LTr mutants). These markers were transmitted to progeny as Mendelian character , either single dominant (LTr mutants and Valr mutants of the 1st type), or digenic recessive (Valr mutants of the 2nd type). The 2 types of valine resistance were further characterized by testing cells derived from mesophyll protoplasts from resistant plants for resistance to valine and to other amino acids. Cells of mutants of the 1st type had a low level of resistance to valine, whereas cells of mutants of the 2nd type had a high level of resistance to valine and to other amino acids. According to the results of 14C-labeled amino acid uptake expts., the amino acid resistance of mutants of the 2nd type could be accounted for by a generally reduced uptake of amino acids. Possible uses of valine resistance as a marker in plant cell genetics are discussed.

L3 ANSWER 40 OF 48 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1982-71171E [34] WPIDS
TITLE: L-Threonine prodn. - by culturing Brevibacterium or Corynebacterium strain.
DERWENT CLASS: B05 D16 E16
PATENT ASSIGNEE(S): (AJIN) AJINOMOTO KK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 57115187	A	19820717	(198234)*		4
JP 63038194	B	19880728	(198834)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 57115187	A	JP 1980-185677	19801229

PRIORITY APPLN. INFO: JP 1980-185677 19801229
AN 1982-71171E [34] WPIDS
AB JP 57115187 A UPAB: 19930915
L-threonine may be produced by culturing strain of Brevibacterium or Corynebacterium genus having D-**threonine-resistance.**
High yields are obtd. Suitable strains include Brevibacterium divaricutum ATCC 14020, Brevibacterium flavum ATCC 14067, Brevibacterium lactofermentum ATCC 13869, Brevibacterium saccharoriticum ATCC 14066, Corynebacterium acetacidofirum ATCC 13870 and Corynebacterium glutamicum ATCC 13032.

L3 ANSWER 41 OF 48 AGRICOLA DUPLICATE 18
ACCESSION NUMBER: 82:26523 AGRICOLA
DOCUMENT NUMBER: IND82013355
TITLE: Inheritance and expression of lysine plus **threonine resistance** selected in maize tissue culture.
AUTHOR(S): Hibberd, K.A.; Green, C.E.
AVAILABILITY: DNAL (500 N21P)
SOURCE: Proceedings of the National Academy of Sciences of the United States of America., Jan 1982 Vol. 79, No. 2. p. 559-563
Publisher: Washington, D.C., The Academy.
ISSN: 0027-8424
NOTE: 19 ref.
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

L3 ANSWER 42 OF 48 AGRICOLA
ACCESSION NUMBER: 83:131295 AGRICOLA
DOCUMENT NUMBER: IND83111359
TITLE: Inheritance and expression of lysine plus **threonine resistance** selected in maize tissue culture Zea mays. Variability in plants regenerated from tissue culture / edited by E.D. Earle, Y. Demarly.
AUTHOR(S): Green, C.E.
AVAILABILITY: DNAL (QK840.V37)
SOURCE: Var Plant Regen Tissue Cult, 1982 p. 188-201
Publisher: New York : Praeger, 1982.
ISBN: 0030593646.
NOTE: Includes references.
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

L3 ANSWER 43 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 19
ACCESSION NUMBER: 1982:178005 CAPLUS
DOCUMENT NUMBER: 96:178005
TITLE: A simple procedure for rapid preliminary screening for lysine plus **threonine resistance** in green gram (Vigna radiata)
AUTHOR(S): Sainis, J. K.; Rao, S. R.
CORPORATE SOURCE: Biol. Agric. Div., Bhabha At. Res. Cent., Bombay, 400 085, India
SOURCE: Plant Sci. Lett. (1982), 25(1), 91-8
CODEN: PTSLAF; ISSN: 0304-4211

DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lysine plus threonine inhibited the greening of etiolated green gram (V. radiata) leaves. This inhibition was reversed when methionine was present during treatment with lysine and threonine. Various amino acid analogs and enzyme inhibitors also affected the greening of etiolated leaves. Using these results a simple procedure is described to screen for lysine plus **threonine resistance** in plants.

L3 ANSWER 44 OF 48 AGRICOLA
ACCESSION NUMBER: 84:20021 AGRICOLA
DOCUMENT NUMBER: IND84006795
TITLE: A simple procedure for rapid preliminary screening for lysine plus **threonine resistance** in green gram (Vigna radiata) [Mung beans].
AUTHOR(S): Sainis, J.K.; Rao, S.R.
AVAILABILITY: DNAL (QK1.P5)
SOURCE: Plant science letters., Apr 1982 Vol. 25, No. 1. p. 91-98
Publisher: Limerick : Elsevier.
ISSN: 0304-4211
NOTE: Includes references.
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English

L3 ANSWER 45 OF 48 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 20
ACCESSION NUMBER: 1981:547336 CAPLUS
DOCUMENT NUMBER: 95:147336
TITLE: Seedling screening for lysine-plus-threonine resistant maize
AUTHOR(S): Phillips, R. L.; Morris, P. R.; Wold, F.; Gengenbach, B. G.
CORPORATE SOURCE: Dep. Agron. Plant Genet., Univ. Minnesota, St. Paul, MN, 55108, USA
SOURCE: Crop Sci. (1981), 21(4), 601-7
CODEN: CRPSAY; ISSN: 0011-183X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Over 200 corn (Zea mays) strains were evaluated for seedling growth on lysine-plus-threonine supplemented media in an attempt to find feedback resistant mutants. Five of 92 inbreds, most of which were developed for use in hybrid prodn., were resistant (i.e., root length on lysine + threonine medium exceeded 50% of control). Resistant inbreds B37 and B76 were from the Iowa Stiff Stalk Synthetic (BSSS) population. Nine of 103 random line isolates from the BSSS population were resistant. From 16 of the 17 original BSSS component lines tested, only Ill. 12E was resistant. Seven broad base corn populations did not yield resistant types. Resistance was expressed only when seedlings were derived from germinating whole kernels. Seedlings derived from dissected embryos of resistant strains were inhibited. Studies of kernel aspartokinase and homoserine dehydrogenase activities indicated that alterations in the feedback regulation of these enzymes were not the basis of the obsd. lysine + **threonine resistance**. The opaque-2 version of B37 was inhibited. This observation and amino acid data led to the tentative hypothesis that resistance is a function of the relative amts. of methionine and lysine (M/L ratio) in the kernel with a high M/L ratio leading to resistance and a low M/L ratio leading to inhibition. All 3 resistant strains analyzed had a high M/L ratio compared with 4 inhibited strains. Kernels of one strain, BSSS 53, had approx. 21% more total methionine than the other 4 inbreds analyzed (2 resistant, 2 inhibited) yet retained the typical dent kernel phenotype. Kernels of the resistant strains also tended to have higher percentage protein. Specific approaches are suggested for selecting high methionine or high lysine maize.

L3 ANSWER 46 OF 48 MEDLINE DUPLICATE 21
ACCESSION NUMBER: 79109368 MEDLINE
DOCUMENT NUMBER: 79109368 PubMed ID: 104959
TITLE: Inhibition of Bacillus subtilis growth and sporulation by threonine.
AUTHOR: Lamb D H; Bott K F
SOURCE: JOURNAL OF BACTERIOLOGY, (1979 Jan) 137 (1) 213-20.
Journal code: HH3; 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197904

ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19790425

AB A 1-mg/ml amount of threonine (8.4 mM) inhibited growth and sporulation of Bacillus subtilis 168. Inhibition of sporulation was efficiently reversed by valine and less efficiently by pyruvate, arginine, glutamine, and isoleucine. Inhibition of vegetative growth was reversed by asparate and glutamate as well as by valine, arginine, or glutamine. Cells in minimal growth medium were inhibited only transiently by very high concentrations of threonine, whereas inhibition of sporulation was permanent. Addition of threonine prevented the normal increase in alkaline phosphatase and reduced the production of extracellular protease by about 50%, suggesting that threonine blocked the sporulation process relatively early. 2-Ketobutyrate was able to mimic the effect of threonine on sporulation. Sporulation in a strain selected for resistance to azaleucine was partially resistant. Seventy-five percent of the mutants selected for the ability to grow vegetatively in the presence of high threonine concentrations were found to be simultaneously isoleucine auxotrophs. In at least one of these mutants, the **threonine resistance** phenotpye could not be dissociated from the isoleucine requirement by transformation. This mutation was closely linked to a known ilvA mutation (recombination index, 0.16). This strain also had reduced intracellular threonine deaminase activity. These results suggest that threonine inhibits B. subtilis by causing valine starvation.

L3 ANSWER 47 OF 48 MEDLINE DUPLICATE 22
ACCESSION NUMBER: 77004193 MEDLINE
DOCUMENT NUMBER: 77004193 PubMed ID: 786777
TITLE: Thialysine-resistant mutant of Salmonella typhimurium with a lesion in the thrA gene.
AUTHOR: Jegede V A; Spencer F; Brenchley J E
SOURCE: GENETICS, (1976 Aug) 83 (4) 619-32.
Journal code: FNH; 0374636. ISSN: 0016-6731.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197612
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19900313
Entered Medline: 19761203

AB A mutant of Salmonella typhimurium was selected for its spontaneous resistance to the lysine analog, thialysine (S-2-aminoethyl cysteine). This strain, JB585, exhibits a number of pleiotropic properties including a partial growth requirement for **threonine, resistance** to thiaisoleucine and azaleucine, excretion of lysine and valine, and inhibition of growth by methionine. Genetic studies show that these properties are caused by a single mutation in the thrA gene which encodes the threonine-controlled aspartokinase-homoserine dehydrogenase activities. Enzyme assays demonstrated that the aspartokinase activity is unstable and the threonine-controlled homoserine dehydrogenase activity absent in extracts prepared from the mutant. These results explain the growth inhibition by methionine because the remaining homoserine dehydrogenase isoenzyme would be repressed by methionine, causing a limitation for threonine. The partial growth requirement for threonine during growth in glucose minimal medium may also, by producing an isoleucine limitation, cause derepression of the isoleucine-valine enzymes and provide an explanation for both the valine excretion, and azaleucine and thiaisoleucine resistance. The overproduction of lysine may confer the thialysine resistance.

L3 ANSWER 48 OF 48 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1971:49997 CAPLUS
DOCUMENT NUMBER: 74:49997
TITLE: Genetically desensitized aspartate kinase to the concerted feedback inhibition in Brevibacterium flavum
AUTHOR(S): Shiio, Isamu; Miyajima, Ryuichi; Sano, Konosuke
CORPORATE SOURCE: Cent. Res. Lab., Ajinomoto Co., Inc., Kawasaki, Japan
SOURCE: J. Biochem. (Tokyo) (1970), 68(5), 701-10
CODEN: JOBIAO
DOCUMENT TYPE: Journal
LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB Aspartate kinase (EC 2.7.2.4) was prepd. from B. flavum and from a mutant resistant to L-threonine plus the analog S-(2-aminoethyl)-L-cysteine. Both the parent and mutant enzymes showed homotropic interaction with aspartic acid (I) which disappeared in the presence of the activators threonine or (NH4)2SO4; activation by (NH4)2SO4 was greater with the parental than the mutant enzyme. In the presence of (NH4)2SO4, double

reciprocal plots of the reaction rate against one substrate concn. at various fixed concns. of another substrate were linear and met at a point with both enzymes. ADP, a reaction product, competitively inhibited interaction of both enzymes with I and ATP, suggesting a rapid equil. random BiBi mechanism for both enzymic reactions. The Km values for I and ATP were similar for both enzymes. Threonine slightly activated the mutant enzyme but partially and competitively inhibited the parental enzyme in the presence of (NH4)2SO4, while in the absence of the salt it activated both enzymes. Gel filtration expts. showed dimer formation when threonine was added in the presence of (NH4)2SO4. Regardless of the presence of (NH4)2SO4, L-lysine at high concn. inhibited both enzymes to the same degree. In contrast to the parental enzyme, concerted inhibition by lysine plus threonine was not obsd. with the mutant enzyme. Furthermore, the simultaneous addn. of threonine decreased the inhibitory effect of lysine on the mutant enzyme. L-Isoleucine only slightly activated the mutant enzyme, while it increased the parental enzyme activity 2-fold. Thus, a genetic alteration occurred in the aspartate kinase of an analog-resistant mutant which affected the actions of the allosteric effectors, threonine, isoleucine, and (NH4)2SO4, but not those of the substrates or of the competitive inhibitor, lysine. The specific growth inhibition of the parental strain by S-(2-aminoethyl)-L-cysteine plus threonine, which was reversed by lysine, was caused by a concerted inhibition of aspartate kinase. The resistance of the mutant to these amino acids, as well as lysine overproduction, may be due to the lack of concerted inhibition of the mutant enzyme.